

### REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars:

#### In the claims

Claim 1 is amended to correct the informalities identified by the examiner. Claims 6, 16, and 20 are amended in view of the rejection under 35 U.S.C. § 112, first paragraph, discussed below. Claim 21 is amended in view of the rejection under 35 U.S.C. § 112, second paragraph, discussed below.

#### Claim objections

Claims 1 and 14-19 are presently objected to for certain informalities. In particular, the examiner has identified certain phrases within claim 1 and suggested changes. Claim 1 has been amended generally according to the examiner's suggested language, replacing "a digital signal" in line 6 with "digitized control data and video signals," "its position" in line 9 with "the position of said control unit," and "the received control data and video signals" in the last line with "the digitized control data and video signals." In view of the amendments to claim 1, withdrawal of the objection is requested.

With respect to claims 14-19, Applicant notes that these claims are directed to *a control unit* for use in a configurable large-area display system according to claim 1. That is, claims 14-19 are directed to a control unit itself, wherein the control unit is intended for use in the display system of claim 1, as opposed to the entire configurable large-area display system itself. It is respectfully submitted that the claimed invention is clearly indicated by the preamble of these claims. Accordingly, withdrawal of the objection is requested.

#### Rejection of claims 6, 16, and 20 under 35 U.S.C. § 112, first paragraph

Claims 6, 16, and 20 presently stand rejected as failing to comply with the written description requirement. In particular, the examiner notes that the feature wherein "the

EEPROM contains production data factory light output measurements, as well as color coordinates for each pixel within modules” is not described in the specification, since while the specification describes an EEPROM (224) for storing hardware configuration and spacing of the picture elements, the specification discloses *another EEPROM* included in each module 220 for storing production data factory light output measurements, as well as color coordinates for each pixel.

Claims 13, 16, and 20 are amended to recite that each module contains a local storage device to store production data and factory light output measurements, as well as color coordinates for each pixel within each module. Support for this amendment is found at lines 21-27 of page 20 of the present application.

It is respectfully submitted that the local storage device contained in each module is clearly described in the above-noted passage of the original specification, and therefore amended claims 13, 16, and 20 comply with the written description requirement. Accordingly, withdrawal of this rejection is requested.

Rejection of claim 21 under 35 U.S.C. § 112, second paragraph

Claim 21 presently stands rejected as being indefinite. In particular, the examiner notes that the phrase “some intermediate pixels, which are spaced apart less further then desired, are ignored for use” is not clear.

Claim 21 is amended to recite that “some intermediate pixels, which are not sufficiently far apart to have the appearance of being a transparent structure, are ignored for use.” Support for this amendment is found at lines 1-6 of page 22 of the present application.

It is respectfully submitted that this amendment to claim 21 clarifies that it is intermediate pixels that are not sufficiently far apart to have the appearance of being a transparent structure which are ignored for use, as described in the above-identified portion of the specification.

In view of this amendment, it is respectfully submitted that claim 21 is sufficiently definite to particularly point out and distinctly claim the inventive subject matter. Accordingly, withdrawal of the rejection is requested.

Rejection of claims 1, 2, 5, 7-15, and 17-19 in view of *Maskeny*

Claims 1, 2, 11-14, 18, and 19 presently stand rejected as being anticipated by Maskeny (U.S. 5,990,802), and claims 5, 7-10, 15, and 17 are rejected as being unpatentable over Maskeny. This rejection is respectfully traversed for the following reasons.

It is respectfully submitted that Maskeny fails to disclose or suggest that each sub-display is a control unit capable of controlling the individual pixels of the control unit as a function of the position of the control unit within the display.

Maskeny teaches that each panel is assigned a LOGICAL ID, and that the LOGICAL ID is associated with a logical position in the panel display system 42 (see *Maskeny*; col. 6, lines 60-65). According to Maskeny, information is displayed according to the LOGICAL ID, or *logical position*.

However, the LOGICAL ID is based on an *operator configuration* to identify a logical position. Therefore, while Maskeny provides that an image is displayed based on the LOGICAL ID corresponding to a "logical position", the "logical position" is an *operator configuration*. Therefore, Maskeny does not disclose a control unit capable of controlling the individual pixels of the control unit as a function of the position of the control unit within the display, but instead discloses controlling pixels according to an operator configuration.

This difference becomes apparent upon comparison of Maskeny and the present invention.

According to the present invention, each control unit is given a vertical and horizontal start position control (see page 18, line 31 to page 19, line 1 of the present application), and the video signals are controlled as a function of the position of the

control units, and hence as a function of the position of each of the individual pixels (see page 4, lines 27-31 of the present application). Thus, the present invention is concerned with the actual, physical position of the control unit within the display.

The distinction between position (physical position) in the invention and logical position disclosed by Maskeny is important, and leads to an important advantage of the present invention.

In a display system according to the present invention, if a module fails, the module need only be replaced to restore the functionality of the display system, since the module displays image data according to its position within the display. That is, the replacement module “auto-addresses” itself according to position such that there is no need for any operator intervention to reconfigure the system or a sub-panel.

Conversely, in Maskeny, because an image is displayed according to an *operator's configuration value* (the logical position) for a sub-panel, and not according to the sub-panel's actual position, it is necessary for an operator to reconfigure the software according to the new panel's unique ROM ID and LOGICAL ID to identify the logical position of the panel (see *Maskeny*; col. 7, lines 24-31).

Further, it can be recognized that, since the image is displayed according to an *operator's configuration value* (the logical position) and not the sub-panel's position in the panel, an incorrect configuration would result in an incorrectly positioned image.

According to the present invention, each control unit is provided with an EEPROM in addition to the local storage device on each module (see amended claims 6, 16, and 20, and the description at lines 21-31 of page 13). In contrast, Maskeny contains a single, preferably EPROM/ROM-based, microcontroller associated with each panel circuit, and no other storage means associated with modules comprising the panel.

The “hierarchy” of storage devices of the present invention (EEPROM 224 provided for the control unit 116, and local storage device provided on each module (220) provides enhanced flexibility and independence of each control unit and module. Because each module contains a local storage device, a module can be replaced without need for

interaction with the controller 216, and can independently adapt itself to the other modules.

In addition, should a module fail (as opposed to an entire control unit), it is not necessary to replace the whole control unit (116) or panel as would be the case with Maskeny.

Further, the display system of the present invention allows for better image handling, such as wherein an image may be "stretched" by skipping one or more physical modules (as described in the present application at line 26 of page 12 through line 7 of page 13).

Thus, the practice of physically addressing the control units and pixels of the present invention differs from, and offers advantages over, the system according to Maskeny wherein panels are addressed according to a logical, not a physical address. Additionally, the provision of a hierarchy of local storage devices (EEPROM 224 associated with the control unit as well as a local storage device associated with each module) differs from, and offers advantages over, the system according to Maskeny.

For at least the foregoing reasons, it is respectfully submitted that Maskeny fails to disclose or suggest each and every element as set forth in claim 1, because Maskeny fails to disclose or suggest each sub-display is a control unit capable of controlling the individual pixels of the control unit as a function of the position of the control unit within the display.

Therefore, it is respectfully submitted that claims 1-21 are allowable over the cited reference. Accordingly, withdrawal of the rejection is respectfully requested.

Rejection of claims 3 and 4 under 35 U.S.C. § 103(a)

Claim 3 presently stands rejected as being unpatentable over Maskeny in view of *Fiber Options*, and claim 4 is rejected as being unpatentable over Maskeny in view of *Toshiba America Information Systems* (hereafter *Toshiba*).

Both *Fiber Options* and *Toshiba* discuss data transmission methods. In particular, *Fiber Options* describes a fiber communication system compatible with RS232, while *Toshiba* provides a summary of RS-232, RS-422, and RS-485 interface standards. Neither discloses any aspect of a display system, except that *Fiber Options* notes use in CCTV security applications.

Accordingly, neither *Fiber Options* nor *Toshiba* disclose or suggest a display system wherein each sub-display is a control unit capable of controlling the individual pixels of the control unit as a function of the position of the control unit within the display, and therefore both *Fiber Options* and *Toshiba* fail to supplement the deficiencies described above with respect to the limitations of claim 1. Therefore, claims 3 and 4 are allowable over the cited references, and withdrawal of these rejections is requested.

#### Conclusion

Every effort has been made to place the application fully in condition for allowance, and to remove all issues raised by the Examiner in the Official Action.

In view of the amendments to the claims, and in further view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is requested that claims 1-3 and 6 be allowed and the application be passed to issue.

Application No.: 10/697,096  
Examiner: Jimmy Nguyen  
Art Unit: 2629

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's attorney, the Examiner is invited to contact the undersigned at the numbers shown.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "John R. Schaefer", written in a cursive style.

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